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PATENT ABSTRACTS OF JAPAN

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(71)Applicant : ASAHI CHEM IND CO LTD

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(72)Inventor : MANABE SEIICHI
SATANI MASUO

(54) PREPARATION OF NONINFECTIOUS MATERIAL CONTAINING ANTIGEN OR ANTIBODY OF VIRUS

(57)Abstract:

PURPOSE: To treat or prevent a disease by injecting the liquid obtd. by filtering blood plasma or cell culture supernatant contg. virus by porous hollow fibers of a hydrophilic high polymer having a specific structure.

CONSTITUTION: The blood plasma or cell culture supernatant which is positive in the antigen or antibody of virus is prep'd. by filtering the same with the porous hollow fibers constituted of a specific pore structure and specific high- polymer base material. The high-polymer base material is regenerated cellulose, polyvinyl alcohol, etc., which are hydrophilic polymers. The pore structure is $\geq 10\mu\text{m}$ in the film thickness (indicated by d, μm unit) of the hollow fibers and the average pore size (indicated by μm unit) by a water filtration rate method satisfies all of ≤ 1.5 times the diameter of the virus to be removed, $\leq 0.2\mu\text{m}$, and $\leq (0.004 \times d)\mu\text{m}$ and $\geq 0.01\mu\text{m}$. The intra-surface porosity thereof is ≤ 0.5 and the pore structure has ≥ 10 layers of layer structures in the film thickness direction. The film permeability of the antigen or antibody is thereby made into $\geq 30\%$ and the permeability of the virus into $\leq 0.01\%$. The treatment and prevention and thus enabled.

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AB - J02161954 Non-infectious substances contg. viral antigen or antibody
are prepd. by (1) sepn. and removal of blood corpuscles or cell

components from viral antigen-or antibody-positive blood or

suspensions. (2) filtration of the obtd. plasma or cell culture

supernatant through a porous hollow fibre comprising hydrophilic
polymers of layered structure having a membrane thickness of at least
10 micron a porous dia. is 0.01-0.2 micron m and upto 0.004xd microns

by water filtration rate method. The dia. is less than 1.5 times
compared with the virus. The void content under the surface is upto
0.5, and it has at least 10 layers in the direction of membrane

thickness.

- The virus may be HIV and the plasma for or after filtration may
comprise mixed plasma from several human subjects, and the porous
hollow fibre used for removal of the virus in the plasma may comprise
cellulose regenerated by copper ammonia method. The blood may be HBs
antigen- and HBs antibody-positive or HBe antigen- and HBe
antibody-positive.

- USE/ADVANTAGE - Hollow fibre has high inhibition ratio against virus,
small adsorbability for proteins, and large permeability for plasma
proteins and antibodies. Virus-free plasma or suspensions contg.
antigen or antibody are obtd. By returning the plasma or suspensions
to patients with viral diseases or by the injection to healthy human
subjects, the treatment and prevention of these diseases is effected.
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IW - NON INFECT SUBSTANCE CONTAIN VIRUS ANTIGEN ANTIBODY PREPARATION FILTER
PLASMA CELL CULTURE SUPERNATANT THROUGH POROUS HOLLOW FIBRE

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The Non Infectious substance containg viral antigen or antibody process by